

## ABSTRACT

This invention relates to new photoacid generator compounds and photoresist compositions that comprise such compounds. In particular, the invention relates to photoacid generator compounds that generate an  $\alpha,\alpha$ -difluoroalkyl sulfonic acid upon exposure to activating radiation. Positive- and negative-acting chemically amplified resists that contain such PAGs are particularly preferred. The invention also includes methods for synthesis of such PAGs and  $\alpha,\alpha$ -difluoroalkyl sulfonic acids